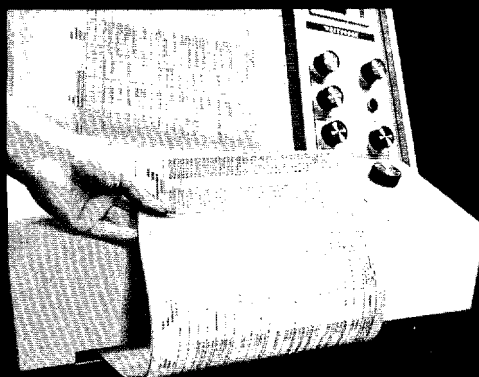
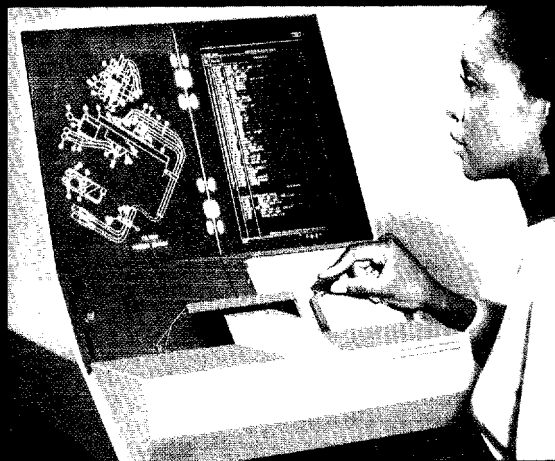
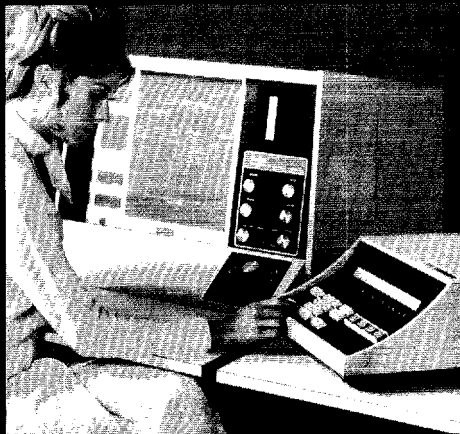
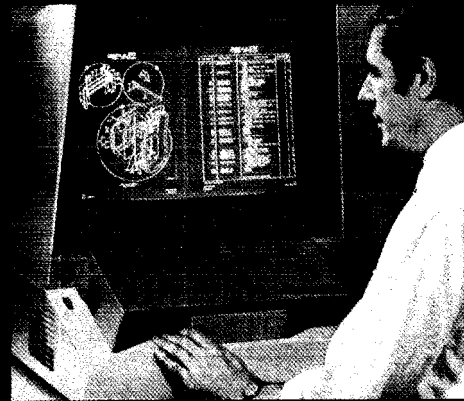
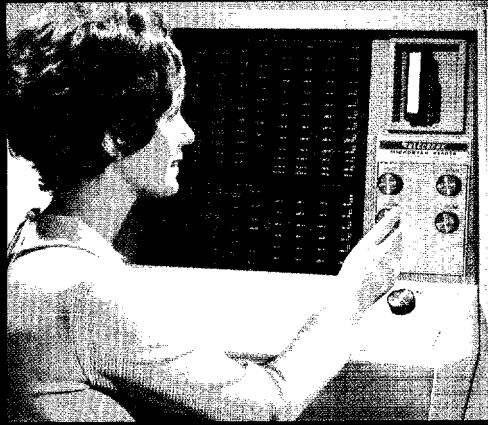
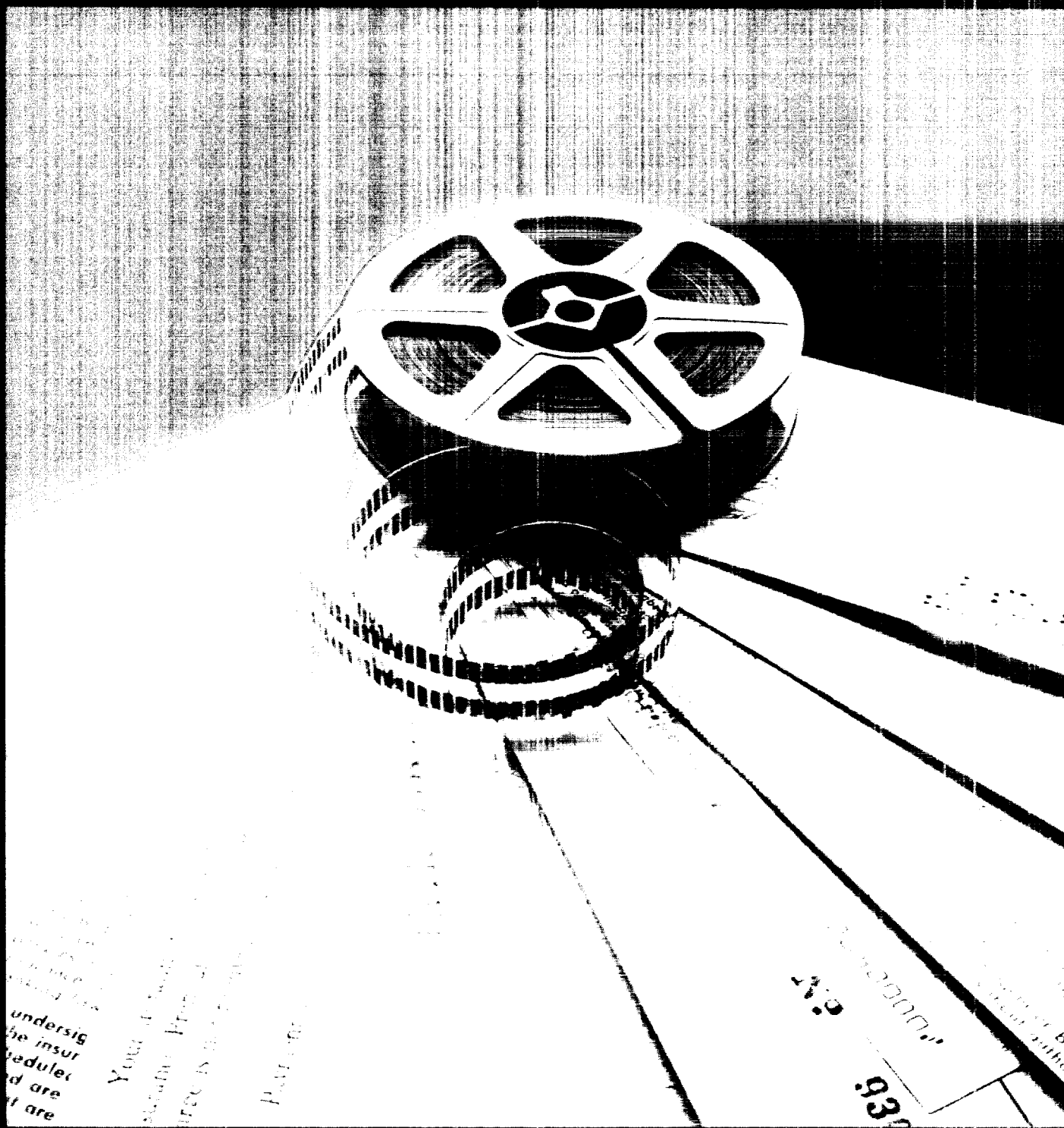


# The Management of Information



**Kodak**



# **The Management of Information ...Using Kodak Microfilm Systems**

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From so simple a record as a notched stick for counting his flock, man has sought, through the centuries, to document and retain knowledge in increasingly refined ways, to accommodate the growing volume of information generated by his developing culture. In the second half of the 20th century, he has recognized three mediums for recording, assembling, filing, manipulating, and distribut-

ing intelligence: paper, magnetic tape, and microfilm.

Whether alone or in complement with the other two, microfilm makes its own unique contribution to helping man more fully exploit his documented knowledge. This publication presents and discusses the essential what, how, and why of utilizing microfilm for the management of information.

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**What is a microfilm system?**

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**Who uses microfilm?**

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**What can you gain by using microfilm for managing information?**

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**How do you put things on microfilm?**

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**The many faces of microfilm**

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**The miracle of microfilm retrieval**

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**How can you share in the benefits microfilm offers?**

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EASTMAN KODAK COMPANY — ROCHESTER, NEW YORK

# What is a microfilm system?



If you've never had occasion to use microfilm, you may think of it as something mysterious. After all, you've read about spies using little bits of it to filch top secret information. Even so, the one thing you already know about microfilm is that it makes big things small, things like letters and drawings and photographs.

You can imagine how these "little pictures" might help you in business, if your records are crowding you out of your office. But, if you have never seen a microfilm system in operation, you probably have a lot of questions about what *else* it can do. You might wonder how you ever find anything once it's on microfilm, or if microfilm can save you money, or what does microfilm cost.

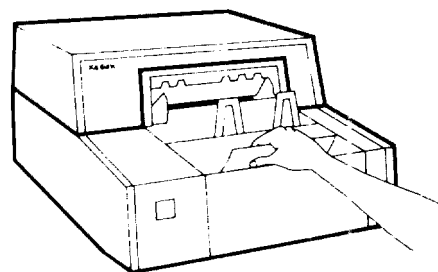
Glad you asked, because a microfilm system is much more than just a lot of little pictures. It's a way of filing information so efficiently that you can find any record, even out of millions, in seconds. It's a way of keeping valuable or classified documents from being lost or stolen. It's a way of keeping related facts together for instant reference, a way to answer customer inquiries faster, to keep track of accounts payable records, to publish and revise parts and merchandise catalogs faster and more easily than ever before. A microfilm system offers you ways to handle computer output more efficiently and find data in a fraction of the time needed with paper records.

And on top of all these advantages, a microfilm system really can save you money on labor, floor space, and mailing costs . . . to name just three.

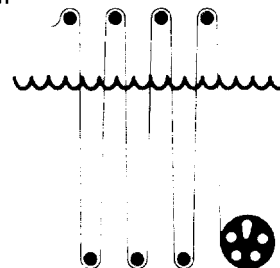
So you see, a "picture" on microfilm isn't a mystery at all. It's a new, simple way to harness the energy in today's information explosion and put it to work for you.

## The four basic operations in a microfilm system

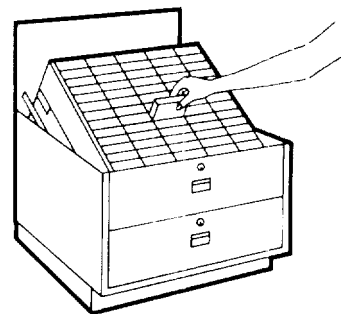
### Microfilming documents



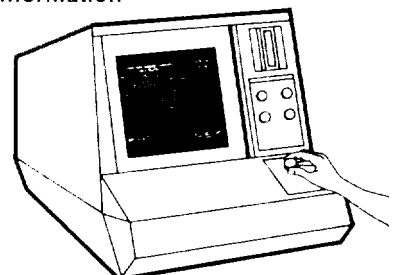
### Processing film



### Filing microforms



### Retrieving information



# Who uses microfilm?

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Modern microfilming was invented by a banker who wanted a positive record of checks being returned to depositors or forwarded to other banks. So he devised a machine: the forerunner of the first Recordak microfilmer. It did away with the need for laboriously handwritten descriptions of checks, and greatly increased the security factor at the same time.

That was in the late 1920s. Today, it's rare to find a bank that isn't using microfilm in one or more important ways: recording checks and statements, maintaining signature card files, and protecting vital records.

Meanwhile, business and professional people in hundreds of other fields have discovered microfilm, too. For example, retail stores use it to simplify billing procedures and answer customer inquiries faster. Schools use it to keep both administrative and student records in order. Libraries use it to speed book charging; for reference to newspapers, scientific journals, and other valuable research materials; and for supplying copies of priceless, one-of-a-kind documents.

And that's not all. Law enforcement officials increase the rate of criminal apprehension by high-speed retrieval of mug shots and fingerprint records on microfilm. Information on a single social security record selected from millions of microfilmed histories is quickly supplied the requester. Local government agencies are giving better service by using microfilm to file everything from land deeds to tax records to vital statistics.

Still more microfilm enthusiasts include credit agencies, public utilities, and engineering departments. Hospitals and physicians are using microfilm for their patient histories, radiographs, and other records. And manufacturers are publishing their parts lists, merchandise catalogs, and service bulletins on microfilm.

What it all boils down to is this: In any kind of business, if you have to maintain records and find them fast, microfilm gets the job done quickly, accurately, simply, and economically.

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## A partial list of records which are easily filed and rapidly retrieved because they are on microfilm.

Accident reports	Freight bills	Periodicals
Appraisals	Historical documents	Personnel files
Artwork and layouts	Insurance files	Plats
Bids	Inventory lists	Policy applications
Bills of material	Invoices	Prescriptions
Birth certificates	Job orders	Purchase orders
Bonds	Leases	Radiographs
Charters	Ledger sheets	Real property records
Check registers	Library cards	Receiving reports
Checks	Loan coupons	Requisitions
Claim files	Mailing lists	Sales slips
Computer printout	Marriage records	Service manuals
Correspondence	Materials test results	Signature cards
Court papers	Medical records	Statements
Customer histories	Mortgages	Stock certificates
Death certificates	Motor vehicle registrations	Student records
Deeds	Mug shots	Tax records
Deposit slips	Newspapers	Tax returns
Easements	Notes	Time cards
EEGs and EKGs	Operator registrations	Timetables
Engineering drawings	Parts lists	Utility meter records
Fingerprints	Patient histories	Veterans records
Flight logs	Payroll ledgers	Welfare records

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# What can you gain by using microfilm for managing information?

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**Space Savings**—Records on microfilm need as little as 2% of the space occupied by the same records on paper.

**Speed and Convenience of Retrieval**—Only seconds are involved in retrieving one of a million records filed within arm's reach of a seated operator.

**Security**—Duplicate microfilm files kept off premises protect against destruction and loss of vital information.

**Lower Operating Costs**—Valuable man-hours freed from sorting, filing, and refiling paper records are either recovered or channeled into more productive work.

**Improved Customer Service**—Questions from customers and clients are satisfied accurately and without the delays of searching paper files.

**Fixed File Continuity**—Records filed on microfilm are in fixed sequence, guarding against misfiling, mislaying, alteration, or loss.

**Dimensional Uniformity**—Regardless of original document size, images are reduced to fit standard microfilm dimensions for convenient handling.

**Rapid Computer Printout**—Magnetic tape data is made readable on microfilm in a fraction of the time required for printing out on paper.

**Low-cost Distribution**—Economical film duplicates are quickly produced and inexpensively mailed.

**Filing Equipment Savings**—Far fewer filing cabinets are needed for microfilm compared with paper records.

**Easy Reversion to Paper**—Should the need arise, a paper copy of the original document is produced in seconds from the microfilm image.

**Versatility**—Microfilm can assume or supplement existing information handling systems with minimum modification of current procedures or disruption of operations.

**Legal Recognition**—Federal and state legislation has provided for the admissibility of microfilm records as primary evidence in the courts.

# How do you put things on microfilm?

It may surprise you to learn that you can put a letter, an invoice, a parts list, a credit report, or other document on microfilm faster and easier than you can drop it into a file folder. The more items you have to file, the more time you can save.

As a matter of fact, Kodak has microfilmers that will let you record up to 200 letter-size documents or as many as 640 checks in just one minute. All you do is simply push a button and drop the originals into an automatic feeder. The machine microfilms every item in a matter of seconds.

The size of the business record you can microfilm knows no practical limits: from as small as a pocket library card to as large an engineering drawing as 45 x 63 inches. And, if you're microfilming computer printout, the length of a continuous run could exceed a mile.

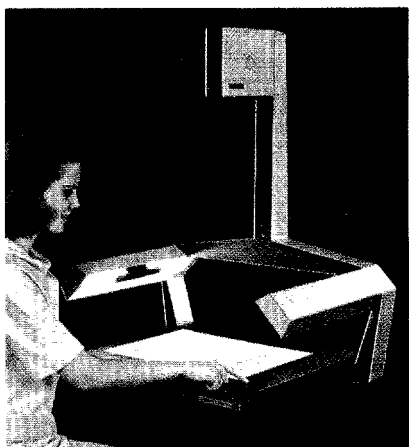
How tiny can the "picture" on film be to make microfilming worthwhile? You can appreciate the space savings when we say that it is everyday practice to create images on 16mm black-and-white film that are 1/50 the dimensions of the original record (expressed as a reduction ratio of 50:1). Depending on the need, other reductions

are used, such as 40:1, 32:1, 20:1, 5:1, or just about any ratio in between. Newspapers and large engineering drawings are usually recorded on 35mm film. And, if you want to microfilm in color, you can do that, too.

How about processing? You have a choice of whichever of three ways fits in best with your needs. (1) You can process the film yourself on premises with a Kodak microfilm processor, which your regular personnel can operate without special training or darkroom facilities. (2) The most recent Kodak advancement is a simplified processor so compact it sits alongside the microfilmer, ready to accept and immediately process exposed film from the same cartridge used in the microfilmer. (3) You can send your film to one of 40 Kodak microfilm processing laboratories where skilled technicians using precision, high-speed equipment will process it the same day as received.

Whatever your file-system requirements may be, there's a Kodak microfilmer that makes the job push-button simple. And you can record literally thousands of documents on just one roll of microfilm. How's that for saving time and space?

**Planetary Microfilmer.** Documents are placed on a flat surface, and exposure is made by pressing a button. Large machines have a 6- or 8-foot-high column holding a film unit over a table base, and are used to microfilm engineering drawings. Desk-top models are designed for legal documents, letters, or library book-charging cards.



**Rotary Microfilmer.** Automatic feeding devices afford microfilming speeds to 640 check-size documents per minute on a rotary microfilmer. It can simultaneously photograph fronts and backs of documents, such as bank checks and tab cards. Besides banking, rotary microfilmers are at work in department stores, manufacturing, transportation, and government agencies.



**Computer Output Microfilmer.** Using magnetic tape as input, the computer output microfilmer translates data into readable language and microfilms it at speeds up to 120,000 characters per second. The COM finds itself in accounts payable, automotive warranties, insurance records, trust account transactions, and other computer-related systems.



# The many faces of microfilm

If you're one of the many people who visualize microfilm as little scraps of film, it's not surprising if you've never really considered its use as a day-by-day business information system. But, in the preceding pages, you have begun to discover that microfilm can be enormously useful in any business situation that depends on records. And microfilm can be this versatile because it comes in a variety of easily updated forms.

Actually, most microfilm is exposed in roll form (usually 16mm or 35mm wide), and then other forms are constructed from individual images or strips of film. Of course, a great deal of microfilmed information is retained on reels, for the roll is easily referenced, readily updated, quickly duplicated onto other microfilm, and possesses fixed file continuity to guard against misfiling or mislaying individual records.

The roll takes on sophistication when it is transformed into a magazine, either by snapping the reel into a plastic "collar" or rewinding the film into a 10.2 x 10.2 x 2.5cm (4 x 4 x 1-inch) plastic container. The magazine acts as a labeled filing unit, protects the film from foreign matter, and, most importantly, provides faster access to its contents, because it self-threads in the reader. Rolls and magazines display newest information first, since it is spliced to the leading edge of the film.

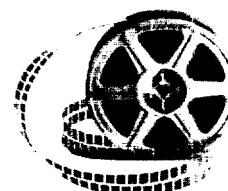
The transparent jacket, in a variety of sizes from 7.6 x 12.7cm (3 x 5-inch) to 12.7 x 20.3cm (5 x 8-inch), serves as a file for individual or small sequences of images inserted into channels in the jacket. It offers a neat, easy way of keeping consecutive medical case history records, student grades, correspondence, stock portfolios, and other information that is frequently updated or augmented. A popular-size jacket, 10.2 x 15.2cm (4 x 6-inch), has room for as many as 70 images of letter-size documents, and a hundred jackets are only about an inch thick.

Still another microform, similar in size and appearance to the jacket, is the microfiche, a sheet of microfilm with rows of images. A 10.2 x 15.2cm (4 x 6-inch) microfiche usually is formatted for 98 images, but is capable of up to 500! Microfiche can be produced inexpensively by the thousands for mass distribution of research materials, service and parts data, and buyers' guides. Low cost permits economical updating by issuing new microfiche and discarding outdated material.

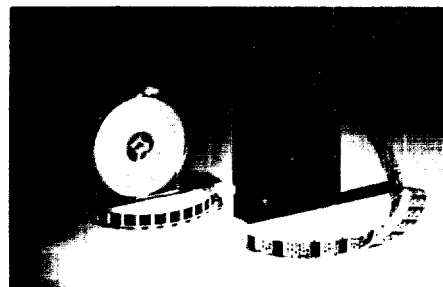
A microform that serves a specialized need is a 35.6cm-long (14-inch-long) molded plastic channel into which are inserted from one to ten strips of microfilm. Much faster than with paper files, the strip holder supplies easily updated answers to questions involving credit authorization, rate tables, alphanumeric conversions, directories, and like kinds of quickly referenced information.

The thing to remember is that microfilm can be put into a number of easy-to-use forms, depending on your business needs.

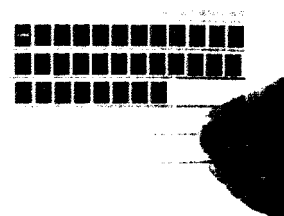
Roll



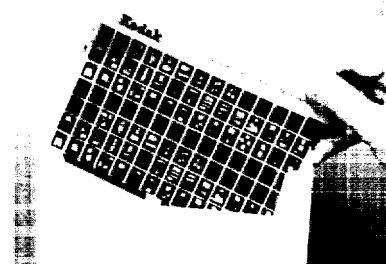
Magazine



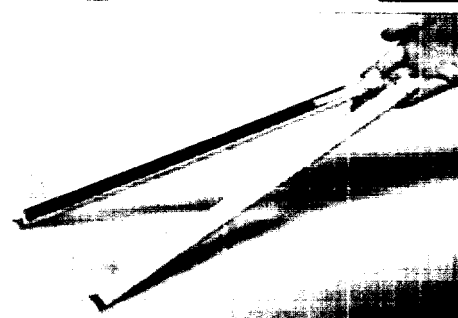
Jacket



Microfiche



Strip Holder





# The miracle of microfilm retrieval

Once you put your records on microfilm, how do you ever find anything? You might think that the last thing in the world that would let you find documents quickly would be to reduce them to tiny images. But that very smallness and uniformity are what let you arrange them better than you can with paper files. And when you can arrange your records better, you can find them faster and easier.

Selecting the desired microform from a group of microforms is no great shakes. You merely look for the film magazine or roll bearing identifying letters or numbers, the transparent jacket or microfiche with a title on the header, or the strip holder with numbered or lettered labels. Now the trick is to select a single image out of the hundreds or thousands in the microform.

What you do is use simple techniques to code the film as documents are being microfilmed. Here's how.

**Flash card.** One way is to photograph onto the microfilm, cards which bear large numbers or letters identifying groups of document images on a roll. Card images are preceded and followed by clear film spaces. As the film travels in the reader and the spaces flash on the screen, the operator looks for the number or letter signaling the sought-for group of images, which he then reviews for specific information.

**Code lines.** Another coding method for quickly locating groups of related images is to automatically expose horizontal lines on the film at escalating positions between document images. When seen on the reader screen, the lines rise or fall as the film advances or rewinds. The

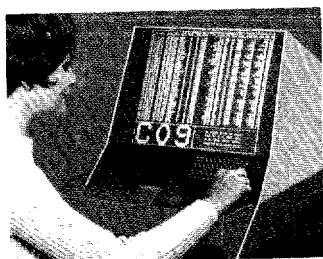
desired image group is located when the code lines match sequential numbers or alpha characters on a scale adjacent to the screen. From the group, the operator selects a particular image.

**Sequential numbering.** Arriving at a specific image more speedily is accomplished in several ways. One of these is to automatically stamp sequential numbers on the documents as part of the microfilming operation. These numbers appear on the reader screen, enabling the operator to visually pinpoint images.

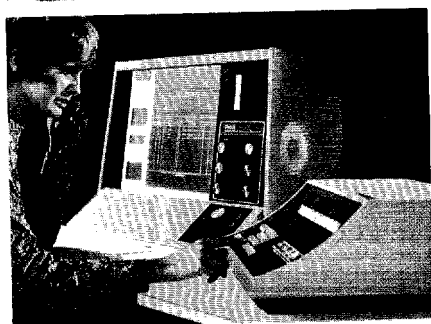
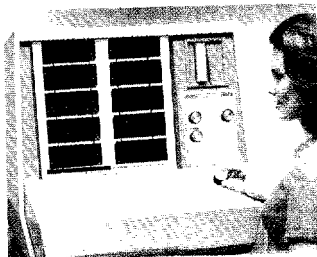
**Image control.** For even faster image location, Kodak has retrieval equipment that works with push-button simplicity. To effect this, a small rectangular mark is exposed on the film next to each image during microfilming. In retrieving, the operator enters the image number on a keyboard coupled to a reader and presses a search button. The marks are electronically counted at high speed, and film travel stops at the precise image in seconds.

**Binary code patterns.** The most sophisticated coding of all uses binary code patterns. As each document or group of documents is microfilmed, varied code patterns that correspond to subject matter in the images are also exposed onto the film. When a magazine is inserted into the reader, the desired code numbers are entered on a control keyboard. The film code patterns are electronically scanned, and the film stops at the image or images containing the desired subject matter, all in half a minute or less. Here, indeed, is information retrieval at its highest level of selectivity and speed.

Manual image retrieval from microfiche.



Automatic threading and power advancing of magazine film.

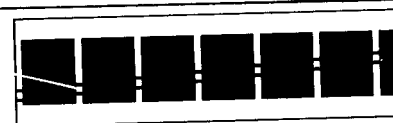


Automatic threading and push-button advancing of magazine film.

Flash card



Code lines



Sequential numbering

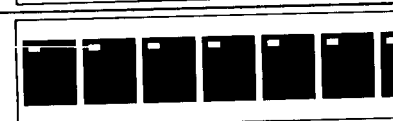


Image control



Binary code patterns



# How can you share in the benefits microfilm offers?

Hopefully, your reading of the preceding pages has made you ask what can microfilm do for you. Easily apparent are the universal benefits: space reduction, records security, labor savings, operational simplicity. But, you'd like to realize advantages that are more specific, advantages that are special to your own unique situation. See if any of the following apply to your field.

## **Publishing**

If you publish parts lists, manuals, or catalogs, microfilm makes it easier and faster to issue and update material, and costs far less to mail.

## **Payables**

If you supervise accounts payable, microfilm helps you avoid paying the same bill twice because the latest information is in file, providing a complete audit trail.

## **Law Enforcement**

If you're a law enforcement officer, having fingerprints and mug shots on microfilm reduces search time and speeds criminal apprehension.

## **Engineering**

If your field is engineering, microfilm will tie together the drawings and related support documents, and save valuable time and money in distributing the data.

## **Education**

If you're in education, microfilm organizes and protects your student and alumni records, and reduces the cost of producing transcripts.

## **Credit**

If you manage a charge card operation, you can answer questions about credit standing within seconds of receiving a phoned inquiry.

## **Medical**

If hospital administration is your field, microfilming patient records makes them immediately accessible at key stations and provides duplicates as protection against loss.

## **Insurance**

If your business is insurance at the home or branch offices, microfilm keeps policy application files current and under complete control.

## **Receivables**

If receivables are your responsibility, customer inquiries about charges and payments are satisfied in shorter time, with greater accuracy, and with fewer personnel.

## **Libraries**

If you're a librarian, microfilm simplifies book charging operations and makes available to patrons an increased wealth of reference materials.

## **Securities**

If you deal in securities, your files on corporations will be up to date and quickly accessible to your representatives and clients.

## **Payroll**

If you direct a payroll department, you can make faster reference to records to answer questions from employees or supervisors.

## **Advertising**

If you're in advertising, retrieving layouts, artwork, and mechanicals of past campaigns from your library is a simple task if microfilm is used for indexing your files.

## **Personnel**

If you maintain personnel records, a microfilm system automatically culls from thousands of candidates only those who fit the precise specifications for a job opening.

## **Public Relations**

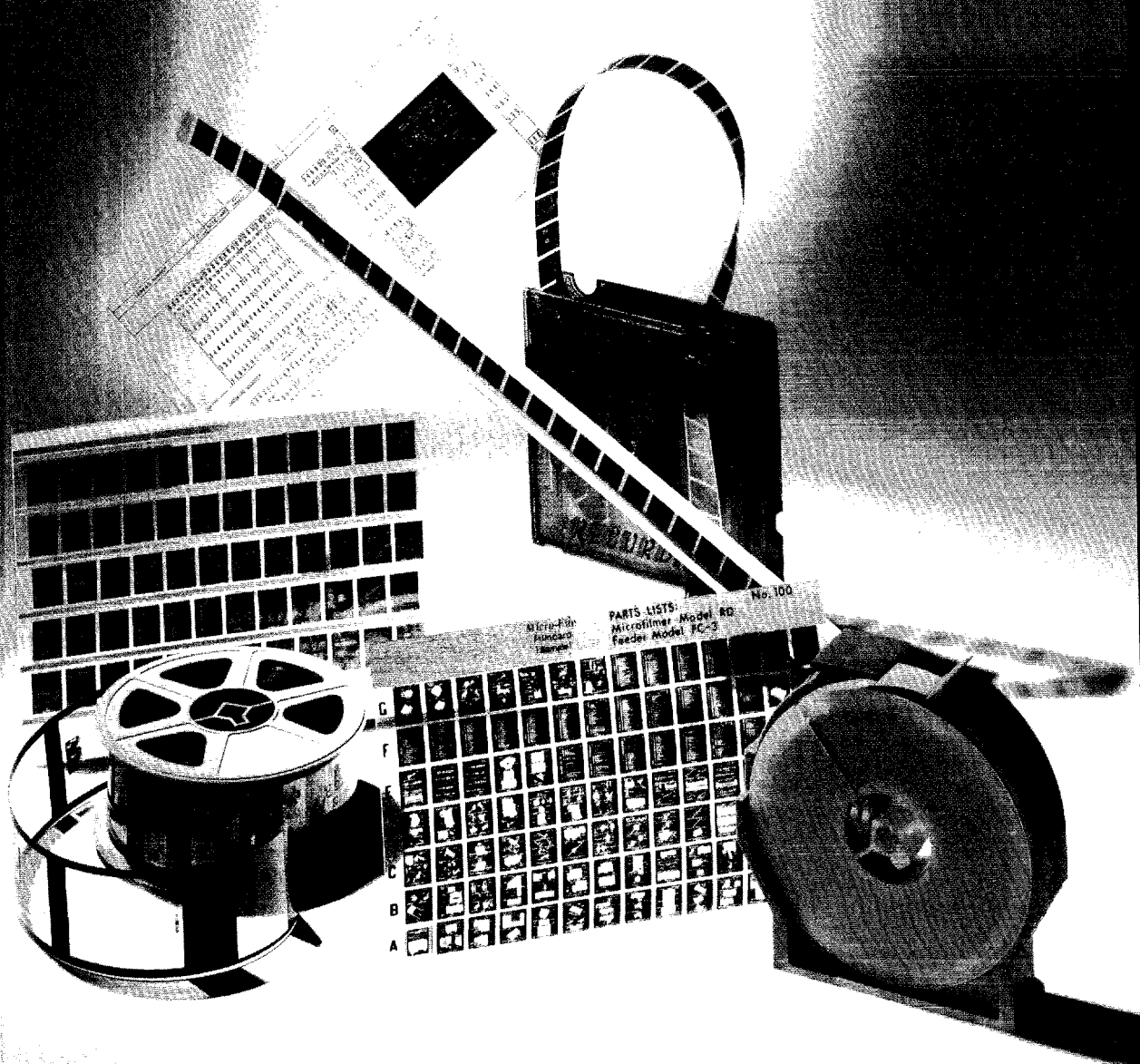
If public relations is your profession, research for writing speeches, articles, and news releases is quick and comprehensive when source material is on microfilm.

## **Unlimited**

Even if your work isn't one of these, the broad spectrum of businesses we've illustrated indicates how far-reaching are the benefits that derive from the use of microfilm for managing information. If you'd like to explore the possibility that microfilm can serve you profitably, you can draw on the knowledge and experience of a Kodak micrographics representative. He will not recommend a microfilm system unless you're satisfied that its implementation will bring you measurable benefits.

You can have a Kodak micrographics expert call on you by contacting the office listed under Eastman Kodak Company "Business Systems" in your phone directory. Or write to us at the Rochester, New York address on the last page.

Either way, you'll be getting the ball rolling in an exciting and dynamic new direction, one that can make your business life easier and more profitable from now on.



- **Systems Counseling**
- **Equipment Maintenance**
- **Microfilm Processing**
- **Operating Supplies**

A prime consideration in the purchase of any business system is the availability of supplementary services to keep that system operating efficiently. Wherever Kodak microfilm products are sold, collateral services are readily available through a nationwide network of 35 Kodak Marketing Centers and additional auxiliary installations. The supervisor responsible for the operation of a Kodak microfilm system can expect prompt and competent attention to his requirements for systems counseling, equipment maintenance, microfilm processing, and operating supplies. Total systems responsibility is implemented by:

1. Specialists in microfilm information storage and retrieval methods who are backed by more than four decades of Kodak experience in microfilm systems development.
2. Highly skilled equipment service representatives operating from over 225 business centers to promptly fulfill requirements for equipment installation and maintenance.
3. Professionally staffed laboratories using modern, high-speed equipment to generate finished microforms from exposed microfilm, source document, or properly formatted computer magnetic tape.
4. Conveniently located warehouses with stocks of fresh Recordak microfilm and other supplies for optimum results from Kodak microfilm equipment.

**Eastman Kodak Company Marketing Center locations  
for Kodak microfilming products and services**

Atlanta, Georgia  
Baltimore, Maryland  
Boston, Massachusetts  
Charlotte, North Carolina  
Chicago, Illinois  
Cincinnati, Ohio  
Cleveland, Ohio  
Coral Gables, Florida  
Dallas, Texas  
Denver, Colorado  
Detroit, Michigan  
Hartford, Connecticut  
Honolulu, Hawaii  
Houston, Texas  
Indianapolis, Indiana  
Jacksonville, Florida  
Kansas City, Missouri  
Lake Success, L.I., New York  
Los Angeles, California  
Memphis, Tennessee  
Milwaukee, Wisconsin  
Minneapolis, Minnesota  
New Jersey (Mountainside P.O.)  
New Orleans, Louisiana  
New York, New York  
Oklahoma City, Oklahoma  
Omaha, Nebraska  
Philadelphia, Pennsylvania  
Pittsburgh, Pennsylvania  
Portland, Oregon  
Rochester, New York  
St. Louis, Missouri  
San Francisco, California  
Seattle, Washington  
Washington, D.C.

**Kodak Microfilm Processing  
Laboratories also at:**

Birmingham, Alabama  
Parkersburg, West Virginia  
Phoenix, Arizona  
Salt Lake City, Utah  
San Antonio, Texas

**Underground Security  
Processing Facilities**

Boyers, Pennsylvania  
Hudson, New York  
Hutchinson, Kansas

Kodak Canada Ltd. Business Systems Markets Division Toronto, Ontario

For information on sales outside the United States and Canada,  
contact International Photographic Division, Rochester, N.Y. 14650